

REMARKS:

Claims 1-12 are pending and stand rejected.

The examiner rejected claims 1-12 under the doctrine of obviousness-type double patenting as being upatentable over claims 11-20 of U.S. Patent No. 6,642,830. Accordingly, a terminal disclaimer in compliance with 37 CFR 1.321(c) is attached to this communication.

The examiner also rejected independent claims 1 and 7 under 35 U.S.C. 103(a) as being upatentable over Henninger [US 5,805,045] in view of Soto et al. [US 6,222,427]. Claims 2-5 depend from the rejected independent claim 1 and claims 8-12 depend from the rejected independent claim 7 and, as such, are also rejected under 35 U.S.C. 103(a).

Claim 1 of the instant patent application reads as follows:

1. A transformer comprising:

a foil winding having an end portion including one or more layers, at least one of said layers being divided to form a plurality of strips having conductive opposite sides;

wherein at least one strip is folded and at least one other strip is folded over said at least one strip to form a conductive stack portion; and

wherein said conductive stack portion extends from said transformer and is secured to a mounting board.

The independent claim 7 of the instant patent application is the same as claim 1 with the exception of being directed to a coil rather than a transformer (see preambles).

The examiner stated that Henninger discloses a transformer including a foil winding, the foil winding including an end portion including one or more layers, at least one of the layers being divided to form a plurality of strips wherein at least one strip is folded and at least one other strip is folded over the at least one strip to form a stack portion, wherein the stack portion extends from the transformer. As such, the examiner indicated that Henninger discloses the instant claimed invention except for the stack portion being secured to a mounting board. The examiner also stated that Soto et al. disclose a transformer including a folded type winding having end portions secured to a PC board. As such, the examiner stated it would have been obvious to one having ordinary skill in the art at the time the invention was made to secure the stack portion of Henninger to the PC board, as suggested by Soto et al, for the purpose of facilitating connection.

However, the Henninger invention in combination with the Soto et al. invention, as set forth by the examiner, is not the same as

that claimed in the instant patent application. Specifically, neither the Henninger patent or the Soto patent teach strips having conductive opposite sides, as claimed. Additionally, these patents do not teach a conductive stack portion nor do they disclose securing a conductive stack portion to a mounting board. Accordingly, because the instant application claims different subject matter than that attributed to Henninger and Soto, we respectfully submit that the argument of obviousness, as set forth by the examiner, is not directed to the subject matter of the application.

Henninger discloses a strip-shaped conductive foil with a plurality of flag-shaped end pieces. An insulating foil is located between each pair of individual flag-like end pieces so that the end pieces are electrically insulated from one another, forming a laminated power supply conductor. Folding these flag-shaped pieces and their insulation determine the flux linkage of the foil and the resulting induced voltage.

In contrast, the instant invention includes a foil conductor cut into flag-shaped portions which are folded to form a stack, eliminating the problems of local heating and energy loss and increasing reliability. Those of ordinary skill in the art will recognize that the reduction of local heating and energy loss is accomplished by the formation of a continuous stack of conductive material. The continuous stack of conductive material

results in a larger flow-through area for electric current than would be available in a single-layer foil conductor. This larger flow-through area increases the electrical admittance characteristic of the foil conductor, thereby reducing electrical resistance, associated heat, and power loss. Reliability is also increased by stacking the conductive material because a break in a single flag-shaped portion will not prevent the flow of electricity.

The motivation for stacking the flag-shaped end pieces in the Henninger patent is to produce a laminated power supply conductor with an associated flux linkage and induced voltage. If the insulating material is removed from the Henninger invention, no voltage would develop across the stack. Therefore, it is essential in the Henninger device that the layers form a non-conductive stack.

While stacking flag-shaped pieces enhances the ability to mount a coil to a circuit board, there is no suggestion in either the Henninger patent or the Soto patent that forming a stack portion reduces heating at the point of contact, reduces energy loss, or improves reliability. Additionally, alternating layers of conductive material with insulating material to form a laminated power supply with an induced voltage does not increase the flow-through area of the conductive foil. Therefore, the stack portion described by Henninger, in view of Soto et al., is

believed to teach away from the present invention, namely, forming a conductive stack portion.

In view of the foregoing, the applicant believes that Claims 1-12 recite allowable subject matter. Accordingly, the applicant respectfully requests reconsideration of the rejection. The applicant and his attorney thank the Examiner for the thorough examination of the application.

Please charge the \$65 fee for the attached terminal disclaimer, as well as any other charge incurred with this response, to our Deposit Account No. 17-0055.

Respectfully submitted,



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